

Title (en)

METHOD FOR MANUFACTURING A HYDROGEN AND NITROGEN CONTAINING GAS MIXTURE

Title (de)

VERFAHREN ZUR HERSTELLUNG EINES WASSERSTOFF UND STICKSTOFF ENTHALTENDEN GASGEMISCHS

Title (fr)

PROCEDE DE FABRICATION D'UN MELANGE GAZEUX CONTENANT DE L'HYDROGENE ET DE L'AZOTE

Publication

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Application

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Abstract (en)

[origin: WO02072470A1] The present invention relates to a method for manufacturing a hydrogen- and nitrogen containing gas mixture, where a mixture of steam and a carbon containing gas is fed to the retentate side of at least one hydrogen transport membrane syngas and sweep gas generator where said gas and steam are converted to synthesis gas. A part of the hydrogen in said synthesis gas is transported through the membrane to the permeate side in said generator where it reacts with oxygen in an air stream fed to said permeate side to generate heat and a nitrogen and steam containing gas. The synthesis gas is further fed to the retentate side of a downstream hydrogen transport membrane unit or a hydrogen transport membrane reactor where a major part of the hydrogen in said synthesis gas, and if a reactor is used, a major part of additional hydrogen generated at the retentate side in said reactor is transported through said downstream membrane and picked up by said nitrogen containing gas to form a hydrogen- and nitrogen containing gas mixture. Furthermore, the invention relates to a method for performing a catalytic or non-catalytic process wherein the hydrogen- and nitrogen containing gas mixture manufactured by the method according to claims 1-6 is applied as one of the reactants in said process.

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